

## 6354.0 - Job Vacancies, Australia, Nov 2017

Previous ISSUE Released at 11:30 AM (CANBERRA TIME) 10/01/2018

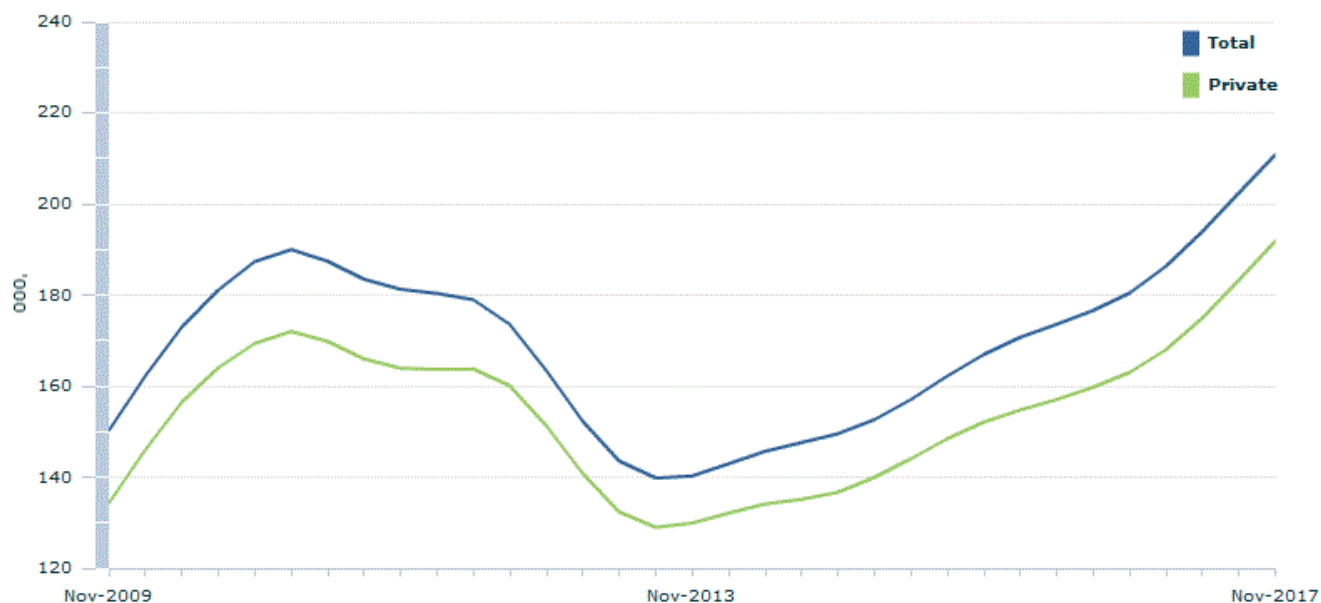
## Summary

### Main Features

#### NOVEMBER KEY FIGURES

	Nov 2017 '000	Aug 2017 to Nov 2017 % change	Nov 2016 to Nov 2017 % change
Trend Estimates			
Private sector	191.8	4.6	17.7
Public sector	19.0	-0.7	8.1
Private and public sectors	210.8	4.1	16.8

Job Vacancies, Total & Private sector- Trend



Save Chart Image

Australian Bureau of Statistics

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Source(s): Job Vacancies, Australia (cat. no. 6354.0)

#### NOVEMBER KEY POINTS

#### TREND ESTIMATES

- Total job vacancies in November 2017 were 210,800, an increase of 4.1% from August 2017.
- The number of job vacancies in the private sector was 191,800 in November 2017, an increase of 4.6% from August 2017.
- The number of job vacancies in the public sector was 19,000 in November 2017, a decrease of -0.7%

from August 2017.

## NOTES

## FORTHCOMING ISSUES

ISSUE (QUARTER)	Release Date
February 2018	29 March 2018
May 2018	28 June 2018

## TREATMENT OF SURVEY OUTLIERS

Surprise outliering has previously been used as the sole methodology to identify and reduce the impact of a business whose weighted survey response is an outlier (i.e. significantly different to businesses in a group with similar characteristics, based on employment size, state and industry). Surprise outliering involves treating the identified outlier as if it were the only extreme unit in the group's population. The outlier is given a weight of one and the weights of the other unit in the group are adjusted upwards accordingly. From the November 2017 issue, winsorisation methodology has been introduced as the primary method to treat outliers in JVS. Winsorisation moderates the impact of an outlier business without the harsh impact of the surprise outliering approach. Surprise outliering will continue to be used for a small number of extreme values that may not be sufficiently moderated by the winsorisation method. There was no significant impact on the estimates from the change in methodology.

## ROUNDING

Estimates of percentage change shown in this release have been calculated using unrounded estimates, and may be different from, but are more accurate than, movements obtained from calculating percentage change using the rounded estimates presented in the Tables and the datacubes on the Downloads tab.

## INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070. The ABS Privacy Policy outlines how the ABS will handle any personal information that you provide to us.

## Tables

## TABLES

## 1 Job Vacancies, States and territories

	NSW	Vic.	Qld	Original			NT	ACT	Australia	Seasonally Adjusted	Trend
				SA	WA	Tas.				Australia	Australia
JOB VACANCIES ('000)											
2016											
August	69.4	45.3	28.9	9.6	17.5	1.9	2.4	4.7	179.7	177.0	176.6
November	69.0	45.4	33.6	9.6	17.7	2.0	2.7	5.7	185.8	181.2	180.5
2017											
February	68.1	50.4	29.7	9.5	17.8	2.6	2.9	5.9	186.9	185.9	186.3
May	69.8	44.6	27.1	10.4	19.1	2.7	3.1	5.7	182.5	192.0	193.9
August	76.6	55.9	35.0	9.1	19.3	2.5	3.8	6.2	208.4	204.8	202.5
November	81.5	57.5	35.0	9.1	19.8	2.5	3.3	7.2	216.0	210.3	210.8
CHANGE FROM PREVIOUS QUARTER (%)											

2016											
August	2.0	14.1	25.4	9.9	12.9	1.3	8.3	-4.8	9.5	3.2	1.8
November	-0.7	0.3	16.4	0.5	1.0	4.7	12.2	20.9	3.4	2.3	2.2
2017											
February	-1.3	10.8	-11.7	-1.1	0.7	31.9	7.0	3.3	0.6	2.6	3.2
May	2.5	-11.4	-8.8	9.1	7.1	3.9	6.3	-2.1	-2.3	3.3	4.1
August	9.7	25.4	29.1	-12.1	1.1	-8.4	22.2	8.6	14.2	6.7	4.4
November	6.5	2.9	-0.1	-0.1	2.7	0.6	-12.6	15.2	3.6	2.7	4.1

#### CHANGE FROM CORRESPONDING QUARTER OF PREVIOUS YEAR (%)

2015											
November	22.5	21.3	13.3	22.6	-28.5	19.8	-37.1	58.3	11.9	11.6	11.7
2016											
November	15.5	12.6	5.4	-5.6	2.2	-27.3	21.0	-5.0	9.0	8.6	8.1
2017											
November	18.2	26.7	3.9	-5.2	12.1	26.3	21.5	26.5	16.3	16.1	16.8

### 2 Job Vacancies, Private Sector - States and territories

	NSW	Vic.	Qld	Original						Seasonally Adjusted		Trend
				SA	WA	Tas.	NT	ACT	Australia	Australia		Australia

#### JOB VACANCIES ('000)

2016												
August	64.1	41.2	25.7	8.7	16.0	1.6	2.1	3.1	162.5		160.0	159.7
November	63.3	41.2	30.5	8.6	16.2	1.7	2.2	4.3	168.0		163.7	163.0
2017												
February	62.9	45.5	26.8	8.5	16.3	2.3	2.3	4.5	169.1		167.7	168.0
May	63.4	39.5	24.4	9.5	17.5	2.4	2.7	4.5	163.7		173.0	175.0
August	69.4	50.5	32.3	8.2	17.8	2.1	3.4	4.7	188.4		185.0	183.3
November	74.8	53.5	32.6	8.1	18.2	2.1	2.8	5.3	197.4		192.0	191.8

#### CHANGE FROM PREVIOUS QUARTER (%)

2016												
August	2.6	13.5	29.0	11.1	11.8	4.3	14.9	-8.9	10.1		3.2	1.6
November	-1.2	-	18.7	-0.5	1.2	4.2	5.3	36.5	3.4		2.4	2.1
2017												
February	-0.7	10.5	-12.2	-2.3	0.7	32.9	7.3	5.9	0.6		2.4	3.1
May	0.8	-13.2	-9.1	11.8	6.8	3.5	15.1	-0.6	-3.2		3.2	4.2
August	9.4	28.0	32.7	-13.3	1.9	-10.7	28.1	4.0	15.1		6.9	4.8
November	7.8	5.9	0.9	-0.8	2.1	-0.2	-18.9	13.3	4.8		3.8	4.6

#### CHANGE FROM CORRESPONDING QUARTER OF PREVIOUS YEAR (%)

2015												
November	22.4	23.6	11.1	23.1	-29.4	20.8	-48.7	27.9	10.7	10.4	11.3	
2016												
November	15.8	10.6	5.5	-7.6	1.7	-28.8	33.3	-2.6	8.7	8.3	7.1	
2017												
November	18.2	29.9	6.9	-6.0	11.9	22.6	28.4	24.0	17.5	17.2	17.7	

- nil or rounded to zero (including null cells)

### 3 Job Vacancies, Public sector - States and territories

	NSW	Vic.	Qld	Original						Seasonally Adjusted		Trend
				SA	WA	Tas.	NT	ACT	Australia	Australia		Australia

#### JOB VACANCIES ('000)

2016												
August	5.3	4.1	3.2	0.9	1.5	0.3	0.4	1.6	17.2		17.1	17.0
November	5.7	4.3	3.1	1.0	1.5	0.3	0.6	1.4	17.7		17.5	17.6
2017												
February	5.2	4.9	2.9	1.1	1.5	0.4	*0.6	1.3	17.8		18.2	18.3
May	6.4	5.1	2.7	0.9	1.6	0.4	0.4	1.2	18.9		18.9	18.9
August	7.2	5.4	2.7	0.9	1.5	0.4	0.4	1.6	20.0		19.8	19.1

November	6.7	4.0	2.3	1.0	1.7	0.4	0.5	1.9	18.6	18.3	19.0
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#### CHANGE FROM PREVIOUS QUARTER (%)

2016											
August	-5.1	19.4	2.7	-0.8	26.1	-14.0	-17.4	4.7	4.3	3.2	2.9
November	6.1	3.5	-2.6	11.0	-1.0	8.0	49.2	-10.3	3.0	2.3	3.5
2017											
February	-8.4	14.4	-6.8	9.9	0.8	25.5	5.7	-4.8	0.4	4.3	4.3
May	23.1	5.1	-5.8	-12.4	10.3	6.4	-27.8	-7.1	5.9	4.0	3.3
August	12.1	5.6	-3.2	-	-6.6	6.2	-14.4	25.4	6.1	4.4	1.1
November	-6.3	-25.1	-12.4	6.5	9.9	5.1	45.7	21.1	-7.0	-7.5	-0.7

#### CHANGE FROM CORRESPONDING QUARTER OF PREVIOUS YEAR (%)

2015											
November	23.9	-1.4	39.8	17.7	-15.9	13.2	47.4	362.6	24.6	25.1	16.4
2016											
November	11.8	36.9	5.1	17.1	7.7	-16.8	-10.4	-11.5	11.5	11.7	17.9
2017											
November	18.5	-4.9	-25.5	2.5	14.2	49.0	-4.7	34.2	4.9	4.9	8.1

\* estimate has a relative standard error of 25% to 50% and should be used with caution  
- nil or rounded to zero (including null cells)

### 4 Job Vacancies, Industry - Original

	2016		2017			
	August '000	November '000	February '000	May '000	August '000	November '000
Mining	2.7	3.3	3.5	3.5	4.2	5.5
Manufacturing	7.7	8.7	10.6	9.2	10.9	12.7
Electricity, gas, water and waste services	1.1	*0.9	*1.1	1.3	1.4	1.5
Construction	10.6	11.2	12.4	11.8	13.4	13.7
Wholesale trade	9.0	7.0	8.6	*7.1	6.6	7.7
Retail trade	19.6	22.7	17.9	20.2	21.5	25.9
Accommodation and food services	16.6	16.0	17.8	13.5	17.4	18.6
Transport, postal and warehousing	3.7	*4.5	*4.4	*5.4	*5.6	5.4
Information media and telecommunications	3.2	*3.1	*2.5	2.6	2.9	3.0
Financial and insurance services	10.4	11.3	8.5	9.2	9.6	8.5
Rental, hiring and real estate services	4.1	*4.0	*3.5	*4.1	*4.0	3.8
Professional, scientific and technical services	21.3	20.3	21.2	18.7	23.4	21.3
Administrative and support services	21.9	25.2	26.3	28.5	32.0	38.2
Public administration and safety	9.2	9.4	9.9	10.1	10.8	10.5
Education and training	6.6	*6.1	6.1	6.0	7.2	5.7
Health care and social assistance	20.9	19.9	20.6	20.5	24.2	23.4
Arts and recreation services	*2.5	*3.2	*2.6	*2.1	*2.5	*2.9
Other services	*8.6	8.8	9.5	*8.8	10.8	*7.7

\* estimate has a relative standard error of 25% to 50% and should be used with caution

## About this Release

Results of the quarterly Job Vacancies Survey containing estimates of job vacancies classified by industry, sector and state/territory.

## Explanatory Notes

### Explanatory Notes

#### EXPLANATORY NOTES

## **INTRODUCTION**

**1** This release contains quarterly estimates of job vacancies based on information obtained from the quarterly Job Vacancies Survey (JVS).

**2** The JVS was suspended following the May 2008 survey and was reinstated for the November 2009 survey.

## **GAP IN SERIES**

**3** As a result of JVS being suspended, there is a gap in all series: original, seasonally adjusted and trend, for five periods between August 2008 and August 2009 inclusive. The Australian Bureau of Statistics (ABS) cannot produce reliable estimates by collecting this missing data retrospectively, and has not been able to fill the gap using other data sources. However, modelled data for the gap period have been used in the production of trend time series data (see paragraphs 40 to 43 for further details).

## **CONCEPTS, SOURCES AND METHODS**

**4** Descriptions of the underlying concepts of Australia's job vacancies statistics, and the sources and methods used in compiling these estimates, are presented in Labour Statistics: Concepts, Sources and Methods (cat. no. 6102.0.55.001).

## **SCOPE AND COVERAGE**

**5** The survey covers all employing organisations in Australia (public and private sectors), except:

- enterprises primarily engaged in agriculture, forestry and fishing;
- private households employing staff; and
- foreign embassies, consulates, etc.

**6** All job vacancies of organisations covered in the survey are in scope, except those:

- in the Australian permanent defence forces; and
- located outside Australia.

## **SURVEY METHODOLOGY AND DESIGN**

**7** The JVS uses a sample survey methodology and collects information via online forms and/or telephone interviews. Approximately 5,000 employers, selected from the ABS Business Register (ABSBR), are included in the survey.

**8** The statistical unit for the survey comprises all the activities of an employer in a particular state or territory based on the Australian Business Number (ABN) unit or Type of Activity Unit (TAU). Each statistical unit is classified to an industry which reflects the predominant activity of the business. The statistical units are stratified by state, industry division and employment size, and within each stratum, statistical units are selected with equal probability.

**9** The sample for JVS, like most ABS business surveys, is selected from the ABSBR which is primarily based on registrations to the Australian Taxation Office's (ATO) Pay-As-You-Go Withholding (PAYGW) scheme. The population is updated quarterly to take account of new businesses, businesses that have ceased employing, changes in industry and employment levels and other general business changes.

## **STATISTICAL CHANGES IMPLEMENTED IN NOVEMBER 2009**

**10** A number of improvements were introduced into JVS in November 2009 including:

- undertaking a sample redesign to incorporate the Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006 industry classification which provides a more contemporary industrial

classification than ANZSIC 1993;

- updating employment benchmarks on the business survey frame to reflect more up-to-date information for use in stratification and estimation;
- correcting invalid industry and Standard Institutional Sector Classification of Australia (SISCA) codes on the business survey frame; and
- incorporating changes to the SISCA, Public/Private and level of Government classifications.

**11** These changes impacted on:

- the population of businesses included;
- the way these businesses are grouped together for sampling purposes;
- the sample selected;
- the weighting of individual units; and
- the industries used to present the statistics.

**12** The JVS sample was redesigned to accommodate and exploit all of these changes. Because of the improved groupings of businesses for sampling purposes under ANZSIC 2006, the sample size was reduced from around 5,200 to around 5,000 businesses, with no loss to survey accuracy.

### **IMPACT OF STATISTICAL CHANGES ON JVS ESTIMATES**

**13** The sample redesign and survey frame changes introduced in November 2009 are likely to have resulted in a shift in the level of the series from ANZSIC 1993 based estimates in May 2008, to ANZSIC 2006 based estimates in November 2009. Normally the ABS can provide a measure of the impact of a sample redesign by running a parallel sample on both bases for one or more cycles. However, due to the suspension of the JVS from August 2008 to August 2009 inclusive, any impact resulting from the sample redesign and survey frame changes can not be measured. Therefore caution should be used when comparing estimates from November 2009 onwards with estimates for May 2008 and previous periods.

### **ABS ECONOMIC UNITS MODEL**

**14** The Economic Units Model is used by the ABS to determine the structure of Australian businesses and other organisations. The model consists of:

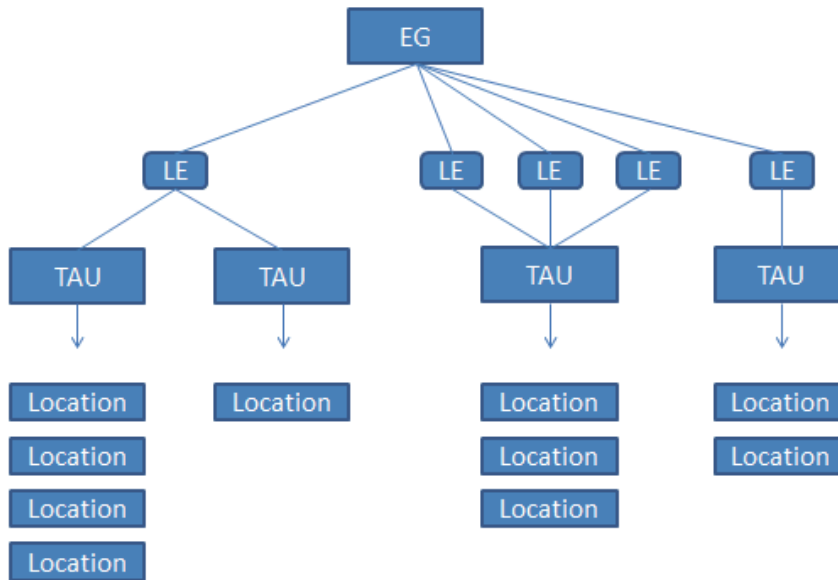
- The Enterprise Group (EG)
- Legal Entities (LEs)
- Type of Activity Units (TAUs)
- Location Units.

**15** The EG and LE are institutional units and the TAU and Location are producing units.

**16** The LE and the TAU are the main institutional and producing units used by the ABS to produce statistical outputs.

**17** Diagram 1 illustrates the nature of the relationships between the different units within the model.

#### **Diagram 1: ABS Economic Units Model\***



\* The legal entity (LE) statistical unit is generally equivalent to a single ABN registration

## UNIT DEFINITIONS

**18 The Legal Entity (LE)** is an institutional unit covering all the operations in Australia of an entity which possesses some or all of the rights and obligations of individual persons or corporations, or which behaves as such in respect of those matters of concern for economic statistics. Examples of legal entities include companies, partnerships, trusts, sole (business) proprietorships, government departments and statutory authorities. Legal entities are institutional units. In most cases the LE is equivalent to a single ABN registration.

**19 The Enterprise Group (EG)** is an institutional unit that covers all the operations within Australia's economic territory of legal entities under common control. Control is defined in Corporations legislation. Majority ownership is not required for control to be exercised.

**20 The Type of Activity Unit (TAU)** comprises one or more Legal Entities, sub-entities or branches of a Legal entity that can report productive and employment activities. TAUs are created if accounts sufficient to approximate Industry Value Added (IVA) are available at the Australian and New Zealand Standard Industrial Classification (ANZSIC) subdivision level.

**21 A Location** is a producing unit comprised of a single, unbroken physical area from which an organisation is engaged in productive activity on a relatively permanent basis, or at which the organisation is undertaking capital expenditure with the intention of commencing productive activity on a relatively permanent basis at some time in the future.

## CLASSIFICATION OF UNITS

**22** Various classifications are applied to the units in the ABS Economic Units Model. The main classifications applied are:

- ANZSIC
- Type of Legal Organisation (TOLO)
- Type of Business Entity (TOBE)
- Standard Institutional Sector Classification of Australia (SISCA)
- Public / Private classification.

**23** ANZSIC is used to classify the industry in which the TAU has productive activity. Further information on this classification can be found in Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat. no. 1292.0).

**24** SISCA provides a framework for dividing the Australian economy into institutional sectors. Further

information on this classification can be found in Standard Economic Sector Classifications of Australia (SESCA), 2008 (cat. no. 1218.0).

## **ABS BUSINESS REGISTER**

**25** The ABSBR is a list of businesses and organisations operating in Australia and is based on the Australian Business Register (ABR). Organisations are included on the ABR when they register for an ABN. The Commonwealth Government requires all government departments and agencies to make use of the ABR to reduce government imposed reporting load, and to use the ABN as the primary reference number for all dealings between government and business. The ABSBR is used to create frames for the various business surveys run by the ABS.

**26** The results of these statistics are based, in part, on ABR data supplied by the Registrar to the ABS under A New Tax System (Australian Business Number) Act 1999 which requires that such data is only used for the purpose of carrying out functions of the ABS. No individual information collected under the Census and Statistics Act 1905 is provided back to the Registrar for administrative or regulatory purposes. Any discussions of data limitations or weaknesses is in the context of using the data for statistical purposes, and is not related to the ability of the data to support the ABR's core operational requirements. Legislative requirements to ensure privacy and secrecy of the data have been followed. Only people authorised under the Australian Bureau of Statistics Act 1975 have been allowed to view data about any particular firm in conducting this survey. In accordance with the Census and Statistics Act 1905, results have been confidentialised to ensure that they are not likely to enable identification of a particular person or organisation.

**27** It is not practicable for the ABS Economic Units Model to be applied to all ABR registrants and the Model is therefore organised into two parts; the profiled population, and the non-profiled population.

**28 Profiled Population:** Businesses and other organisations which are considered sufficiently complex and economically significant, are profiled according to the Economic Units Model. These enterprise groups typically have multiple legal entities, multiple TAUs and are among the largest contributors within industries.

**29 Non-Profiled population:** Businesses and other organisations with less complex structures. They are regarded as an enterprise group with a single legal entity and a single TAU in accordance with the Economic Units Model. Information for units in the non-profiled population is largely sourced from the ABR.

**30** The two populations are mutually exclusive and cover all organisations in Australia which have registered for an ABN.

## **INDUSTRY CLASSIFICATION**

**31** From November 2009, industry statistics presented are on the basis of ANZSIC 2006 edition. This edition replaced the 1993 edition which had been in use since 1994. The 2006 edition of ANZSIC was developed to provide a more contemporary industrial classification system taking into account issues such as changes in the structure and composition of the economy, changing user demands and compatibility with major international classification standards.

**32** Industry data up to May 2008 are only available on an ANZSIC 1993 basis.

**33** For more information on the new industry classification, refer to Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat. no. 1292.0).

## **TREATMENT OF SURVEY OUTLIERS**

**34** Prior to November 2017, surprise outliering was used as the sole methodology to identify and reduce the impact on the estimates of a business whose weighted survey response is an outlier (i.e. significantly different to businesses in a group with similar characteristics, based on employment size, state and industry). Surprise outliering involves treating the identified outlier as if it were the only extreme unit in the group's population. The outlier is given a weight of one and the weights of the other units in the group are adjusted upwards accordingly.

**35** From the November 2017 issue, winsorisation methodology has been introduced as the primary method to treat outliers in JVS. Winsorisation moderates the impact of an outlier business without the harsh impact of the surprise outliering approach. Surprise outliering will continue to be used for a small number of extreme



values that may not be sufficiently moderated by the winsorisation method.

**36** An analysis of the November 2017 estimates was undertaken and it was found that there was no significant impact on the estimates from the change in methodology.

## **SEASONAL ADJUSTMENT**

**37** Seasonal adjustment is a means of removing the estimated effects of normal seasonal variation from the series so that the effects of other influences can be more clearly recognised. Seasonal adjustment does not aim to remove the irregular or non-seasonal influences which may be present in any particular series. Influences that are volatile or unsystematic can still make it difficult to interpret the movement of the series even after adjustment for seasonal variation. This means that quarter-to-quarter movements of seasonally adjusted estimates may not be reliable indicators of trend behaviour.

**38** Seasonal adjustments factors for November 2009 onwards are computed using the ABS standard method of concurrent adjustment. For the five periods August 2008 to August 2009 inclusive, where survey estimates are not available, modelled data have been used in this adjustment.

**39** In the private sector, seasonally adjusted estimates for February and May 2008 do not display identifiable seasonality and the estimates are the same as the corresponding original estimates. Seasonal adjustment of the estimates from November 2009 onwards was temporarily suspended but, from the February 2014 issue, the series are seasonally adjusted from November 2009 onwards as the series is showing identifiable seasonality.

## **TREND ESTIMATES**

**40** Seasonally adjusted estimates can be smoothed to reduce the impact of irregular or non-seasonal influences. Smoothed seasonally adjusted series are called trend estimates.

**41** The ABS considers that trend estimates provide a more reliable guide to the underlying direction of the data, and are more suitable than either the seasonally adjusted or original estimates for most business decisions and policy advice.

**42** Due to the suspension of JVS for five periods between August 2008 and August 2009 inclusive, it was not possible to produce trend estimates for the first three periods following the reinstatement of the survey in November 2009. The trend series was reintroduced from the August 2010 release, with trend data available from November 2009 onwards.

**43** Modelled data, at the Australia by sector level only, have been used in the calculation of the trend estimates for the three cycles either side of the gap period (see paragraph 3) and mainly impact the May 2008 and November 2009 trend estimates. The modelled data, which is for the gap period from August 2008 to August 2009 inclusive, are not part of the JVS series and are not available for release from this publication.

## **RELIABILITY OF ESTIMATES**

**44** Estimates are subject to sampling and non-sampling errors. For information on the reliability of estimates see the Technical Note.

## **RELATED PUBLICATIONS**

**45** Users may also wish to refer to the following publications:

- Australian Labour Market Statistics (cat. no. 6105.0);
- Average Weekly Earnings, Australia (cat. no. 6302.0) - issued biannually;
- Employee Earnings and Hours, Australia (cat. no. 6306.0) - issued biennially;
- Employment and Earnings, Public Sector, Australia (cat. no. 6248.0.55.002) - issued annually;
- Labour Force, Australia (cat. no. 6202.0) - issued monthly; and
- Labour Statistics: Concepts, Sources and Methods (cat. no. 6102.0.55.001).

## ROUNDING

**46** Estimates have been rounded and discrepancies may occur between sums of the component items and totals. Estimates of percentage change have been calculated using unrounded estimates, and may be different from, but are more accurate than, movements obtained from calculating percentage change using the rounded estimates presented in this release.

## Glossary

### GLOSSARY

#### Data type

Job vacancy estimates are a stock data type, as the number of job vacancies is measured at a point in time.

#### Industry

Industry is classified according to the Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat. no. 1292.0).

#### Job vacancy

A job vacancy is a job available for immediate filling on the survey reference date and for which recruitment action has been taken. Recruitment action includes efforts to fill vacancies by advertising, by on site or online notices, by notifying employment agencies or trade unions and by contacting, interviewing or selecting applicants already registered with the enterprise or organisation.

Estimates of job vacancies exclude:

- jobs not available for immediate filling on the survey reference date;
- jobs for which no recruitment action has been taken;
- jobs which became vacant on the survey date and were filled on the same day;
- jobs of less than one day's duration;
- jobs only available to be filled by internal applicants within an organisation;
- jobs to be filled by employees returning from paid or unpaid leave or after industrial disputes;
- vacancies for work to be carried out by contractors; and
- jobs for which a person has been appointed but has not yet commenced duty.

#### Reference date

The reference date for the survey is the third Friday of the middle month of the calendar quarter. The reference date for the current survey is 17 November 2017.

#### Sector

Public sector comprises local government authorities and all government departments and agencies created by, or reporting to the Commonwealth or State/Territory Parliaments. The private sector comprises all organisations not classified as public sector.

## Abbreviations

### ABBREVIATIONS

ABN	Australian Business Number
ABR	Australian Business Register
ABS	Australian Bureau of Statistics
ABSBR	Australian Bureau of Statistics Business Register
ANZSIC	Australian and New Zealand Standard Industrial Classification

ATO	Australian Taxation Office
EG	Enterprise Group
JVS	Job Vacancies Survey
LE	Legal Entity
PAYGW	Pay-As-You-Go Withholding
SISCA	Standard Institutional Sector Classification of Australia
TAU	Type of Activity Unit
TOBE	Type of Business Entity
TOLO	Type of Legal Organisation

## Sampling Error (Technical Note)

### TECHNICAL NOTE SAMPLING ERROR

#### RELIABILITY OF ESTIMATES

**1** As the estimates in this release are based on information relating to a sample of employers rather than a full enumeration, they are subject to sampling variability. That is, they may differ from the estimates that would have been produced if the information had been obtained from all employers. This difference, called **sampling error**, should not be confused with inaccuracy that may occur because of imperfections in reporting by respondents or in processing by the ABS. Such inaccuracy is referred to as **non-sampling error** and may occur in any enumeration whether it be a full count or sample. Efforts have been made to reduce non-sampling error by careful design of questionnaires, detailed checking of returns and quality control of processing.

**2** The sampling error associated with any estimate can be estimated from the sample results. One measure of sampling error is given by the **standard error** which indicates the degree to which an estimate may vary from the value which would have been obtained from a full enumeration (the 'true value'). There are about two chances in three that a sample estimate differs from the true value by less than one standard error, and about 19 chances in 20 that the difference will be less than two standard errors.

**3** An example of the use of a standard error on levels is as follows. If the estimated number of job vacancies was 25,000 with a standard error of 2,500, then there would be about two chances in three that a full enumeration would have given an estimate in the range 22,500 to 27,500 and about 19 chances in 20 that it would be in the range 20,000 to 30,000.

**4** An example of the use of a standard error for a quarterly change estimate is as follows. If the estimated standard error for a quarterly change estimate of job vacancies was 1,000 and the quarterly change estimate between two quarters was 4,500, then there would be about two chances in three that a full enumeration would have given a quarterly change estimate in the range +3,500 to +5,500 and about 19 chances in 20 that it would be in the range +2,500 to +6,500.

**5** Quarterly movements in estimates of job vacancies are considered to be statistically significant where they exceed two standard errors.

**6** Another measure of the sampling error (for level estimates only) is the **relative standard error**, which is obtained by expressing the standard error as a percentage of the estimate to which it refers. Level estimates with a relative standard error between 25% and 50%, denoted by an asterisk in this release, are subject to sampling variability generally considered to be too high for most practical purposes and should be used with caution. Level estimates with a relative standard error of 50% or more, denoted by a double asterisk, are considered to be too unreliable for general use.

**7** The following table shows the standard errors for quarterly level and movement for States and territories by Sector, based on original data for the current quarter. The next table shows the standard errors for level estimates by industry.

**Standard Errors, Job Vacancies by Sector and States and territories - November 2017**

	Level			Quarterly movement		
	Private '000	Public '000	Total '000	Private '000	Public '000	Total '000

New South Wales	5.8	0.8	5.8	5.3	0.8	5.4
Victoria	4.0	0.2	4.0	4.9	0.5	4.9
Queensland	3.4	0.1	3.4	3.8	0.2	3.8
South Australia	0.9	0.1	0.9	0.9	0.1	0.9
Western Australia	1.5	0.3	1.5	1.9	0.2	1.9
Tasmania	0.3	-	0.3	0.4	0.1	0.4
Northern Territory	0.3	-	0.3	0.4	0.1	0.4
Australian Capital Territory	0.5	0.2	0.5	0.6	0.1	0.6
<b>Australia</b>	<b>7.2</b>	<b>1.0</b>	<b>7.1</b>	<b>8.8</b>	<b>1.0</b>	<b>8.8</b>

- nil or rounded to zero (including null cells)

### Standard Errors, Job Vacancies - Industry

	2016		February '000	2017		November '000
	August '000	November '000		May '000	August '000	
Mining	0.3	0.2	0.3	0.2	0.3	0.3
Manufacturing	1.9	1.4	1.9	1.3	2.4	1.7
Electricity, gas, water and waste services	0.2	0.4	0.3	0.2	0.3	0.2
Construction	2.1	2.5	2.8	2.8	2.4	2.5
Wholesale trade	2.0	1.5	1.8	2.1	1.5	1.3
Retail trade	2.7	2.5	2.3	2.5	1.8	2.6
Accommodation and food services	3.6	2.9	2.9	2.2	3.1	3.4
Transport, postal and warehousing	0.5	1.3	1.3	1.6	1.5	1.0
Information media and telecommunications	0.6	0.8	0.6	0.5	0.6	0.7
Financial and insurance services	1.4	1.8	1.0	1.2	1.1	0.9
Rental, hiring and real estate services	1.0	1.1	1.0	1.3	1.1	0.9
Professional, scientific and technical services	3.2	3.0	2.7	3.6	4.1	3.5
Administrative and support services	1.8	1.8	2.0	2.3	2.0	2.5
Public administration and safety	0.9	0.7	0.8	0.7	1.1	1.0
Education and training	1.2	1.8	0.8	0.5	1.4	0.6
Health care and social assistance	2.4	2.6	2.6	2.9	2.8	3.4
Arts and recreation services	0.7	1.2	1.0	0.9	0.8	0.7
Other services	2.4	2.0	2.4	2.7	2.6	2.2

## Quality Declaration

### QUALITY DECLARATION - SUMMARY

#### INSTITUTIONAL ENVIRONMENT

For information on the institutional environment of the Australian Bureau of Statistics (ABS), including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.

#### RELEVANCE

The Job Vacancies Survey (JVS) produces quarterly estimates of job vacancies based on information obtained from a sample of employers. A job vacancy is a job available for immediate filling on the survey reference date and for which recruitment action has been taken. Job vacancies data are used as a leading indicator of employment growth, in monitoring of the Australian economy, and for formulating economic policy.

Job vacancies data are available by state/territory, industry and sector. Seasonally adjusted and trend estimates are produced for Australia by sector series.

#### TIMELINESS

The JVS reference date is the third Friday of the middle month of the quarter, i.e. February, May, August and November. Job vacancies data relate to the number of vacancies which exist on the actual reference date only, and not for a monthly or quarterly period.

Job vacancy estimates are released approximately six weeks after the reference date, with the exception of estimates for each November which, due to the Christmas and New Year period, are released eight weeks after the reference date.

## **ACCURACY**

Information for the JVS is collected by online form and/or telephone from a sample of approximately 5,000 employers. The employer sample selected is stratified by state, industry division and employment size to ensure adequate state, and industry representation. A minimum response rate of 95% is generally achieved for the survey as a whole and for each state and industry.

There are two principal sources of error in surveys, sampling error and non-sampling error. Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise non-sampling error by the careful design and testing of questionnaires, detailed checking of the reported data and direct follow up with providers where significant errors are detected.

Sampling error occurs when a sample or subset of the population is surveyed rather than the entire population. One measure of the likely difference resulting from not including all of the population in the survey is given by the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if the whole population had been included in the survey.

Estimates of job vacancies are seasonally adjusted to remove the estimated effects of normal seasonal variation from the series. The seasonally adjusted series are further smoothed to reduce the impact of irregular or non-seasonal factors. Smoothed seasonally adjusted series are called trend estimates. As data becomes available for the next quarter there are usually revisions in the trend estimates for the most recent preceding quarters.

The ABS considers that trend estimates provide a more reliable guide to the underlying direction of the original estimates and are more suitable than either the seasonally adjusted or original estimates for most business decisions and policy advice.

## **COHERENCE**

The current job vacancies series, based on information obtained from a sample survey of employers on the ABS Business Register, was introduced in November 1983. Prior to November 1983 the job vacancies series was based on information obtained from a sample of businesses which submitted payroll tax returns. The survey was suspended from August 2008 to August 2009 (inclusive) and was re-instated for November 2009.

Data collection methodology have been improved over time, including survey definitions and sample design. Seasonally adjusted estimates were introduced in 1984 and trend estimates were introduced in 1993.

The JVS uses Australian standard classifications to facilitate data comparability across statistical series. Industry data from November 2009 are classified according to the Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat. no. 1292.0). Data for earlier series are classified to the 1993 edition of ANZSIC.

## **INTERPRETABILITY**

Job Vacancies, Australia (cat. no. 6354.0) contains Explanatory Notes, a Glossary and a Technical Note which provide further information about data sources, terminology and other technical aspects of the series.

## **ACCESSIBILITY**

Job Vacancies, Australia (cat. no. 6354.0) is available electronically from the ABS website and includes downloadable Excel data files for time series data.

No further data breakdowns are available other than what is published on the ABS website.

For further information about these and related statistics, contact the National Information and Referral

Service on 1300 135 070. The ABS Privacy Policy outlines how the ABS will handle any personal information that you provide to us.

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